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WHAT IS CLAIMED IS:

1. An antenna-incorporated semiconductor device comprising:

a semiconductor integrated circuit chip having a high-frequency power circuit;

a lead frame having a ground electrode and an antenna element having one end connected to said ground electrode and an other end open;

a wire which connects an input/output electrode of said high-frequency power circuit of said semiconductor integrated circuit chip to a power supply portion of said antenna element; and

an encapsulating resin which encapsulating said semiconductor integrated circuit chip, said lead frame and said wire,

wherein said open end of said antenna element and said ground electrode facing said open end are exposed through an opening portion provided in a part of said encapsulating resin of said antenna-incorporated semiconductor device.

2. The antenna-incorporated semiconductor device according to claim 1, wherein said antenna element is an inverted-F antenna.

3. The antenna-incorporated semiconductor device according to claim 1, wherein said input/output electrode of said high-frequency power circuit of said semiconductor integrated circuit chip is connected to said power supply

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portion of said antenna element via a coupling capacitor.

4. An antenna-incorporated semiconductor device comprising:

a semiconductor integrated circuit chip having a
5 high-frequency power circuit;

a lead frame having a ground electrode and an
antenna element having one end connected to said ground
electrode and an other end open;

a wire which connects an input/output electrode of
10 said high-frequency power circuit of said semiconductor
integrated circuit chip to a power supply portion of said
antenna element;

an encapsulating resin which encapsulating said
semiconductor integrated circuit chip, said lead frame and
15 said wire; and

a coaxial cable connecting connector which is
provided in an opening portion provided in a part of said
encapsulating resin of said antenna-incorporated
semiconductor device and has connection electrodes being
20 said open end of said antenna element and said other end of
said encapsulating resin.

5. The antenna-incorporated semiconductor device
according to claim 4, wherein said connector is a female
type and has a back side covered with a dielectric.

25 6. The antenna-incorporated semiconductor device
according to claim 4, wherein said connector is a female
type and a dielectric guide for positional alignment of a

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male connector on a coaxial cable side with a back side of said capacitor and burying a gap therebetween.